CERAMICS 1, 2, 3, & 4 CURRICULUM

Written by Carol Pelligra

NEWTOWN SCHOOLS
NEWTOWN, CT.

Adopted by the Board of Education April 1, 2004
Ceramic 4 Adopted March 6, 2007
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Newtown High School
Mission and Learning Expectations

**Newtown High School is committed to building a community that pursues rigorous academic goals and personal responsibility.** We also encourage dignity, civility, and tolerance. At Newtown High School, students and teachers work together so that all members of the school community can reach the highest possible level of individual potential. In our partnership of students, teachers, parents, and community members, we work to promote success in a challenging environment and to cultivate competent, contributing, and productive citizens.

Graduates of Newtown High School will:

**Academic Expectations**
- Demonstrate strategies to identify, locate, and interpret information
- Relate and apply new knowledge using a variety of resources including technology
- Take and support a position on information and ideas
- Convey information and ideas in a given written format
- Use inquiry strategies and apply appropriate procedures to solve and communicate an authentic problem or situation
- Convey information and ideas to others in a presentation using spoken language, non-verbal language and multi-media

**Civic Expectations**
- Develop opinions on a variety of issues
- Exhibit involvement in the classroom, school, and larger community through speech and action

**Social Expectations**
- Value personal integrity, respect for others, and appreciation for diversity
- Share responsibility with others to address and resolve issues

ADOPTED BY THE BOARD OF EDUCATION JANUARY 2007
CERAMICS CURRICULUM FOCUS
ON THE MISSION STATEMENT

FOCUS GOALS:

Academic Expectations

- Relate and apply new knowledge using a variety of resources including technology
- Take and support a position on information and ideas
- Convey information and ideas in a given written format
- Use inquiry strategies and apply appropriate procedures to solve and communicate an authentic problem or situation
- Convey information and ideas to others in a presentation using spoken language, non-verbal language and multi-media

Civic Expectations

- Develop opinions on a variety of issues

Social Expectations

- Value personal integrity, respect for others, and appreciation for diversity

OPPORTUNITIES TO MEET THE STANDARDS AS SCORED BY THE ANALYTICAL RUBRICS:

- The problem-solving rubric will be used for all projects as students find solutions to the specific criteria to the presented problem/project
- The Written Performance rubric will be used for written assignments where students are required to write a contextual rational/analysis or report
- The Spoken Communication rubric will be used for class critiques
Newtown High School
Ceramics Curriculum

OVERRIDING PRINCIPLE IN CERAMICS

Creativity expands through the use of investigation, technical skill and self-confidence.

<table>
<thead>
<tr>
<th>Standard 1 (Media, Elements and Principles)</th>
<th>Students will use media, techniques, and processes to understand and express visual elements and principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will:</td>
<td></td>
</tr>
<tr>
<td><strong>Ceramics 1</strong> (Basic Skills)</td>
<td></td>
</tr>
<tr>
<td>a. Demonstrate skills in all of the basic hand-building techniques: pinch pots, coil, slab and the potter’s wheel.</td>
<td></td>
</tr>
<tr>
<td>b. Apply basic surface decoration, glazing, and firing processes</td>
<td></td>
</tr>
<tr>
<td>c. Define and solve challenging ceramics problems.</td>
<td></td>
</tr>
<tr>
<td><strong>Ceramics 2</strong> (Technology)</td>
<td></td>
</tr>
<tr>
<td>a. Apply ceramics media, techniques, technology, and processes skillfully.</td>
<td></td>
</tr>
<tr>
<td>- Use and create molds, forming equipment, and alter forms</td>
<td></td>
</tr>
<tr>
<td>b. Demonstrate basic clay body and glaze formulations.</td>
<td></td>
</tr>
<tr>
<td><strong>Ceramics 3</strong> (Self-expression and Exploration)</td>
<td></td>
</tr>
<tr>
<td>a. Select and apply ceramics media, techniques, technology and processes.</td>
<td></td>
</tr>
<tr>
<td>b. Initiate and solve challenging problems in construction and form development.</td>
<td></td>
</tr>
<tr>
<td>c. Select and develop an area of concentration within ceramics to be used as a means of self-expression.</td>
<td></td>
</tr>
<tr>
<td><strong>Ceramics 4</strong> (Depth, breadth, and Mastery)</td>
<td></td>
</tr>
<tr>
<td>a. Solve challenging problems in ceramics using a variety of forming methods, including large thrown forms, hollowware, altered forms, composite, and sculptural forms.</td>
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</tr>
<tr>
<td>b. Research, develop and use a variety of clays and stoneware glazes</td>
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</tr>
<tr>
<td>c. Refine technical skills with an emphasis on aesthetics, quality of form, and craftsmanship</td>
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<tr>
<td>d. Continue to develop an area of focus, either in forming (i.e. potter’s wheel, hand building), sculpture, and/or glazes.</td>
<td></td>
</tr>
</tbody>
</table>
### Standard 2 (Content)
Students will use subject matter, symbols, and ideas to make connections between art and other disciplines.

**Students will:**

<table>
<thead>
<tr>
<th>Ceramics 1</th>
<th>Ceramics 2</th>
<th>Ceramics 3</th>
<th>Ceramics 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Understand how the principles and elements of design are tied into form and function</td>
<td>a. Justify form and elements of design</td>
<td>a. Combine symbols and form in a conceptual piece.</td>
<td>a. Keep a research workbook, sketchbook, or journal of ideas and inspiration for future works and reference.</td>
</tr>
<tr>
<td>b. Discuss the purpose of traditional and contemporary ceramics within a variety of time frames, cultures, and uses.</td>
<td>b. Create works of art with a specific theme, using functional and non-functional approaches.</td>
<td>b. Keep a portfolio of ideas, inspirational pictures and sketches for future works.</td>
<td>b. Reinforce the connection between ceramics and geology, math, and chemistry through glaze calculations and formulation.</td>
</tr>
<tr>
<td>c. Discuss the uses of clay in everyday objects and ceramics related professions.</td>
<td>c. Analyze and discuss conceptual ceramic pieces, and brainstorm aesthetic issues for conceptual art.</td>
<td>c. Discuss contemporary issues that face today’s potters and artists.</td>
<td></td>
</tr>
</tbody>
</table>

### Standard 3 (History and Cultures)
Students will understand that art is the essential core which reflects, records, and shapes the history and development of culture.

**Students will:**

<table>
<thead>
<tr>
<th>Ceramics 1</th>
<th>Ceramics 2</th>
<th>Ceramics 3</th>
<th>Ceramics 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Analyze shape and form, techniques and process used by various cultures to create functional or non-functional objects.(i.e. Native American, Ancient Greek, African and contemporary)</td>
<td>a. Analyze historical contemporary techniques in clay bodies, glazing and firing.</td>
<td>a. Research contemporary ceramic artists, the techniques, and the philosophy behind their work.</td>
<td>a. Analyze the work of historical and contemporary potters and discuss the purpose, philosophy, or meaning behind the work.</td>
</tr>
<tr>
<td>b. Discuss the anthropological and archeological role of ceramics in understanding the history of mankind.</td>
<td>b. Compare the traditional role of ceramics to today’s contemporary usage.</td>
<td>b. Compare a traditional ceramic work to a contemporary piece and discuss the psychological impact of each.</td>
<td>b. Discuss cultural influences on contemporary work and processes, including form, surface decoration, glazes, and firing techniques.</td>
</tr>
</tbody>
</table>
**Standard 4 (Analysis, Interpretation and Evaluation)**
Students will respond to works of art through analysis and interpretation.

<table>
<thead>
<tr>
<th>Ceramics 1 (Basic Skills)</th>
<th>Ceramics 2 (Technology)</th>
<th>Ceramics 3 (Self-expression and exploration)</th>
<th>Ceramics 4 (Depth, Breadth, and Mastery)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Research and analyze historic meaning and purpose in various ceramic ware.</td>
<td>a. Judge the effectiveness of different ways of using the elements of art to convey ideas.</td>
<td>a. Reflect critically on various interpretations of a specific theme in ceramics.</td>
<td>a. Reflect critically on ceramic ware from contemporary and historical potters, and peers.</td>
</tr>
<tr>
<td>b. Analyze construction techniques of historical and contemporary ware using appropriate ceramics vocabulary.</td>
<td>b. Analyze artwork from the perspective of the principles of design using appropriate ceramics vocabulary.</td>
<td>b. Apply critical and aesthetic criteria for the purpose of improving their own works (i.e. techniques, formal and expressive qualities, and content).</td>
<td>b. Apply critical and aesthetic criteria for the purpose of improving own works (i.e. techniques, formal and expressive qualities, and content).</td>
</tr>
<tr>
<td>c. Compare and contrast results of various glazing and firing techniques.</td>
<td></td>
<td>c. Compare and contrast results of various glazing and firing techniques.</td>
<td></td>
</tr>
</tbody>
</table>

**Standard 5 (Self-monitoring)**
Students will continuously examine, assess, and improve their work.

<table>
<thead>
<tr>
<th>Ceramics 1 (Basic Skills)</th>
<th>Ceramics 2 (Technology)</th>
<th>Ceramics 3 (Self-expression and exploration)</th>
<th>Ceramics 4 (Depth, Breadth, and Mastery)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.</td>
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<td>a. Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.</td>
</tr>
<tr>
<td>b. Self-assess their work through written and verbal analysis and class critiques.</td>
<td>b. Keep a journal of projects and sketches for future work, a record of glazing, and written analysis and critique of own work.</td>
<td>b. Keep a journal of projects and sketches for future work, a record of glazing.</td>
<td>b. Analyze and evaluate own work through written entries in workbook or journal.</td>
</tr>
<tr>
<td>c. Keep a portfolio of sketches and written assignments related to the ceramic project.</td>
<td>c. Participate in group and individual critiques.</td>
<td>c. Evaluate the growth and progress of work through critique and self-analysis</td>
<td>c. Analyze the growth and progress of work created through digital images and portfolio creation of selected images.</td>
</tr>
</tbody>
</table>
Ceramics 1 “Basic Skills”

Unit I - Ceramics and Clay

Essential Question: How has clay shaped human civilization?

Standards with Objectives for This Unit

Standard 2: Students will use subject matter, symbols, and ideas to make connections between art and other disciplines.
- Discuss the purpose of traditional and contemporary ceramics within a variety of time frames, cultures, and uses.
- Discuss the uses of clay in everyday objects and ceramics related professions.

Standard 3: Students will understand that art is the essential core, which reflects, records, and shapes the history and development of culture.
- Analyze shape and form, techniques and process used by various cultures to create functional or non-functional objects. (I.e. Native American, Ancient Greek, African and contemporary)
- Discuss the anthropological and archeological role of ceramics in understanding the history of mankind.

Performance Tasks
1. Students will compare the origins of the various types of clay and their usage.
2. Students will identify and discuss the various types of historical and contemporary ceramic ware, their origins, their function, and the clay qualities and be able to discuss the development of ceramic technology.
3. Students will study the basic ceramic vocabulary related to clay, its origins, qualities, and usage.
4. Students will research the various types of ceramics related careers

Performance Standards
(See Ceramics Performance Standards Rubric on Page 49)
Professional Resources

Suggested Activities
  Study of Ceramics Timeline, cultural origins, usage and characteristics
  Slides of Historical ceramic ware
  Study of geologic clay formation

Reference Materials
  Charleston, Robert. *World Ceramics as Illustrated History*
  Crystal “Ceramics Timeline”
  Assorted Slides of Historical Pottery

Students Resources
  Trade Magazines:
    *Art News*
    *Ceramics Monthly*
    *Clay Times*
    *Pottery Making*
Essential Question: How do we manipulate clay?

Standards with Objectives for This Unit

Standard 1: Students will use media, techniques, and processes to understand and express visual elements and principles
- Demonstrate skills in all of the basic hand-building techniques: pinch pots, coil, slab and the potter’s wheel.
- Define and solve challenging ceramics problems.

Standard 2: Students will use subject matter, symbols, and ideas to make connections between art and other disciplines
- Understand how the principles and elements of design are tied into form and function
- Discuss the purpose of traditional and contemporary ceramics within a variety of time frames, cultures, and uses.
- Discuss the uses of clay in everyday objects and ceramics related professions.

Standard 3: Students will understand that art is the essential core which reflects, records, and shapes the history and development of culture.
- Analyze shape and form, techniques and process used by various cultures to create functional or non-functional objects. (I.e. Native American, Ancient Greek, African and contemporary)

Standard 4: Students will respond to works of art through analysis and interpretation.
- Analyze construction techniques of historical and contemporary ware using appropriate ceramics vocabulary.

Standard 5: Students will continuously examine, assess, and improve their work.
- Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
- Self-assess their work through written and verbal analysis and class critiques.
- Keep a portfolio of sketches and written assignments related to the ceramic project.
Performance Tasks
1. Students will demonstrate the ceramic studio management.
2. Students will develop proficiency in the manipulation of clay, using the basic construction techniques.
3. Students will develop skills in the use of the potter’s wheel.
4. Student will use the basic ceramics vocabulary when discussing and writing about the ceramic product.

Performance Standards
(See Ceramics Performance Standards Rubric on Page 49)

Professional Resources
Suggested Activities
- Review of Basic ceramic vocabulary
- Studio management
- Basic construction techniques including Pinch pots, coil pots, slab construction and Potters wheel assignments

Reference Materials
Examples of actual ware
Videos:
“Ceramic Handbuilding Part 1 and 2” with Ro Mead”, Crystal Productions
“Maria Martinez Native American Potter”
“Beginning to Throw on the Potters Wheel” with Robin Hooper
“Ceramics Throwing on the Wheel with Henry Mead” Crystal Productions

Students Resources
Trade Magazines:
Art News
Ceramics Monthly
Clay Times
Pottery Making
Essential Question: What are the effects of surface enhancement?

Standards with Objectives for This Unit

Standard: Students will use media, techniques, and processes to apply and express visual elements and principles
- Apply basic surface decoration, glazing, and firing processes
- Define and solve challenging ceramics problems.

Standard: Students will use subject matter, symbols, and ideas to make connections between art and other disciplines.
- Discuss the purpose of traditional and contemporary ceramics within a variety of time frames, cultures, and uses.

Standard: Students will respond to works of art through analysis and interpretation.
- Research and analyze historic meaning and purpose in various ceramic ware.
- Analyze construction techniques of historical and contemporary ware using appropriate ceramics vocabulary.

- Standard: Students will continuously examine, assess, and improve work.
- Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
- Self-assess their work through written and verbal analysis and class critiques.
- Keep a portfolio of sketches and written assignments related to the ceramic project.

Performance Tasks
1. Students use the various decorating techniques to enhance the greenware. (i.e. sgraffito, impression, applique, slip trailing, piercing)
2. Students will differentiate between the various types of glazes and underglazes and stains.
3. Students will apply underglazes and glazes using proper application techniques.
4. Students will demonstrate kiln loading, firing and unloading procedures.

Performance Standards
(See Ceramics Performance Standards Rubric on Page 49)
Professional Resources

Suggested Activities

- Surface Decoration Techniques; Applique, Slip Trailing, Sgraffito, Piercing, Rub-n-buff, Impression, Staining, Engobes and Glazing
- Kiln Loading and Firing Demonstration

Reference Materials

Examples of actual ware

Books:

Videos:
“Pottery Decoration: Traditional Techniques” by Tom Shafer
“Beginning to Glaze and Fire with Graham Sheehan”

Students Resources

Trade Magazines:

- *Art News*
- *Ceramics Monthly*
- *Clay Times*
- *Pottery Making*
Ceramics 1  “Basic Skills”

Unit IV - Advanced Construction Techniques

**Essential Question:** What makes a quality piece of Ceramic ware?

**Standards with Objectives for This Unit**

**Standard 1:** Students will use media, techniques, and processes to understand and express visual elements and principles
- Demonstrate skills in all of the basic hand-building techniques: pinch pots, coil, slab and the potter’s wheel.
- Apply basic surface decoration, glazing, and firing processes
- Define and solve challenging ceramics problems.

**Standard 2:** Students will use subject matter, symbols, and ideas to make connections between art and other disciplines.
- Understand how the principles and elements of design are tied into form and function
- Discuss the purpose of traditional and contemporary ceramics within a variety of time frames, cultures, and uses.

**Standard 4:** Students will respond to works of art through analysis and interpretation.
- Research and analyze historic meaning and purpose in various ceramic ware.
- Analyze construction techniques of historical and contemporary ware using appropriate ceramics vocabulary.

**Standard 5:** Students will continuously examine, assess, and improve their work.
- Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
- Self-assess their work through written and verbal analysis and class critiques.
- Keep a portfolio of sketches and written assignments related to the ceramic project.

**Performance Tasks**
1. Students will create ceramic ware using composite forms.
2. Students will create functional handles whose form “fits” the ware.
3. Students will identify and analyze strong and graceful forms in contemporary ware and construct a piece using each of these postures.
4. Students will solve “theme based” sculptural problems using construction methods of their choice.

**Performance Standards**

(See Ceramics Performance Standards Rubric on Page 49)
Professional Resources

Suggested Activities
- Shape and Form Analysis/Research
- Handle and Lid construction and application
- Construction of Greek Pottery
- Self-selected Project

Reference Materials
Examples of actual ware

Books:

Videos:
Handbuilt Pottery” Crystal Productions

Students Resources
Trade Magazines:
*Art News*
*Ceramics Monthly*
*Clay Times*
*Pottery Making*
Ceramics 2 “Technology”

Unit I - Forming

Essential Question: How are tools and technology used to create ceramic products?

Standards with Objectives for This Unit

Standard 1: Students will use media, techniques, and processes to understand and express visual elements and principles
- Apply ceramics media, techniques, technology, and processes skillfully.
  - Use and create molds, forming equipment, and alter forms
- Demonstrate basic clay body and glaze formulations.
- Solve challenging problems in ceramics using a variety of methods.

Standard 2: Students will use subject matter, symbols, and ideas to make connections between art and other disciplines
- Justify form and elements of design
- Create works of art with a specific theme, using functional and non-functional approaches.
- Analyze and discuss conceptual ceramics pieces, and brainstorm aesthetic issues for conceptual art.

Standard 3: Students will understand that art is the essential core, which reflects, records, and shapes the history and development of culture.
- Compare the traditional role of ceramics to today’s contemporary usage.

Standard 4: Students will respond to works of art through analysis and interpretation
- Judge the effectiveness of different ways of using the elements of art to convey ideas.
- Examine and analyze artwork from the perspective of the principles of design using appropriate ceramics vocabulary.
- Compare and contrast results of various glazing and firing techniques.

Standard 5: Students will continuously examine, assess, and improve their work.
- Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
- Keep a journal of projects and sketches for future work, a record of glazing, and written analysis and critique of own work.
- Participate in group and individual critiques.
Performance Tasks
1. Students demonstrate proficiency on the potter’s wheel by creating bowls, lids, platters, tea pots, altered and composite forms and analyze the quality of the ware and construction.
2. Students will create a variety of sculptural forms, such as portraits busts, animal sculptures, non-objective and conceptual sculptures.
3. Students will use the extruder to create sculptural and functional works. The will use the extruder as a construction tool.
4. Students will use and create molds, slump, hump, found object and plaster molds to aid in the construction of ceramic forms.
5. Students will record their projects through drawings, measurements, pre and post firing, as well as glazing.

Performance Standards
(See Ceramics Performance Standards Rubric on Page 49)

Professional Resources
Suggested Activities
- Production pottery on the wheel, bowls, lids, tea pots, large forms, altered and composite forms.
- Sculpture: animals, portraits, conceptual
- Extruder and mold forming and usage

Reference Materials
Examples of actual ware
Books:
Videos:
“Advanced Throwing Projects and Techniques” by Stephen Jepson
“Handbuilt Pottery” Crystal Productions
“Thrown and Altered Clay” with Paul Soldner
“The Art of Making Teapots” with Virginia Cartwright

Students Resources
Trade Magazines:
*Art News*
*Ceramics Monthly*
*Clay Times*
*Pottery Making*
Essential Question: What makes clay a versatile medium?

Standards with Objectives for This Unit

Standard 1: Students will use media, techniques, and processes to understand and express visual elements and principles

- Apply ceramics media, techniques, technology, and processes skillfully.
  Use and create molds, forming equipment, and alter forms
- Demonstrate basic clay body and glaze formulations.
- Solve challenging problems in ceramics using a variety of methods.

Standard 2: Students will use subject matter, symbols, and ideas to make connections between art and other disciplines

- Justify form and elements of design
- Create works of art with a specific theme, using functional and non-functional approaches.

Standard 3: Students will understand that art is the essential core which reflects, records, and shapes the history and development of culture.

a. Analyze historical and contemporary techniques in clay bodies, glazing and firing

Standard 4: Students will respond to works of art through analysis and interpretation

- Examine and analyze artwork from the perspective of the principles of design using appropriate ceramics vocabulary.

Standard 5: Students will continuously examine, assess, and improve their work.

- Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
- Keep a journal of projects and sketches for future work, a record of glazing, and written analysis and critique of own work.
- Participate in group and individual critiques.
Performance Tasks
1. Students will prepare stains and use these stains to create colored clays.
2. Students will use the colored clays in a variety of known construction techniques to include: mishima, applique, forming and marbleizing.
3. Students will examine contemporary and historical colored clay techniques from ceramics monthly and actual ware, i.e. Wedgwood.
4. Students will create test tiles and record all clay firing tests and formulas in journals.

Performance Standards

(See Ceramics Performance Standards Rubric on Page 49)

Professional Resources

Suggested Activities
- Decorating techniques: mishima, applique, and marbleizing on a variety of ware
- Mixing of colored clay bodies using stains and oxides

Reference Materials
- Examples of actual ware
- Clay Times Magazine
- Pottery Making Magazine
- Videos:
  - “Inlaid Colored Clay” with Virginia Cartwright
  - “Beginning to Glaze and Fire “ with Graham Sheehan

Students Resources

- Trade Magazines:
  - Art News
  - Ceramics Monthly
  - Clay Times
  - Pottery Making
Ceramics 2 “Technology”

Unit III - Glaze Exploration

Essential Question: How do glazes get their unique characteristics?

Standards with Objectives for This Unit

Standard 1: Students will use media, techniques, and processes to understand and express visual elements and principles
- Apply ceramics media, techniques, technology, and processes skillfully.
  Use and create molds, forming equipment, and alter forms
- Demonstrate basic clay body and glaze formulations.

Standard 2: Students will use subject matter, symbols, and ideas to make connections between art and other disciplines
- Create works of art with a specific theme, using functional and non-functional approaches.
- Analyze and discuss conceptual ceramic pieces, and brainstorm aesthetic issues for conceptual art.

Standard 3: Students will understand that art is the essential core which reflects, records, and shapes the history and development of culture.
- Analyze historical and contemporary techniques in clay bodies, glazing and firing

Standard 4: Students will respond to works of art through analysis and interpretation
- Examine and analyze artwork from the perspective of the principles of design using appropriate ceramics vocabulary.
- Compare and contrast results of various glazing and firing techniques.

Standard 5: Students will continuously examine, assess, and improve their work.
- Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
- Keep a journal of projects and sketches for future work, a record of glazing, and written analysis and critique of own work.
- Participate in group and individual critiques.

Performance Tasks
1. Students will create and modify glazes through the use of stains, oxides and glaze forming materials. Students may test recipes from professional potters or formulate their own.
2. Students will record all glaze recipes and create test tiles of their glazes, including all weights and measurements. Students will also record firing results.
3. Students will use their formulated glazes to enhance their ware and/or sculptures.

**Performance Standards**

(See Ceramics Performance Standards Rubric on Page 49)

**Professional Resources**

**Suggested Activities**
- Mixing and altering glazes with stains
- Test tiles
- Wax resist techniques

**Reference Materials**
- Examples of actual ware
  - *Clay Times Magazine*
  - *Pottery Making Magazine*

**Books:**

**Students Resources**

**Trade Magazines:**
- *Art News*
- *Ceramics Monthly*
- *Clay Times*
- *Pottery Making*
Ceramics 3 “Self-expression and Exploration”

Unit I - Forming

Essential Question: What are the limitations in ceramic construction?

Standards with Objectives for This Unit

Standard 1: Students will use media, techniques, and processes to understand and express visual elements and principles
- Select and apply ceramics media, techniques, technology and processes.
- Initiate and solve challenging problems in construction and form development.
- Select and develop an area of concentration within ceramics to be used as a means of self-expression.

Standard 2: Students will use subject matter, symbols, an to make connections between art and other disciplines.
- Combine symbols and form in a conceptual piece.
- Keep a portfolio of ideas, inspirational pictures and sketches for future works.
- Discuss contemporary issues that face today’s potters and artists.

Standard 3: Students will understand that art is the essential core which reflects, records, and shapes the history and development of culture.
- Research contemporary ceramics artists, the techniques, and the philosophy behind their work.
- Compare a traditional ceramic work to a contemporary piece and discuss the psychological impact of each.

Standard 4: Students will respond to works of art through analysis and interpretation.
- Reflect critically on various interpretations of a specific theme in ceramics.
- Apply critical and aesthetic criteria for the purpose of improving their own works (i.e. techniques, formal and expressive qualities, and content

Standard 5: Students will continuously examine, assess, and improve work.
- Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
- Keep a journal of projects and sketches for future work, a record of glazing.
- Evaluate the growth and progress of work through self-analysis, individual and group critiques.
Performance Tasks
1. Student will focus on 1 or 2 methods of construction for an in-depth study.
2. Student will research forming techniques by professional artists.
3. Students will create works reflecting their research and self-exploration.

Performance Standards
(See Ceramics Performance Standards Rubric on Page 49)

Professional Resources
Suggested Activities
- Production pottery on the wheel, bowls, lids, tea pots, large forms, altered and composite forms.
- Sculpture: animals, portraits, conceptual, Abstract and/or non-objective sculpture
- Mixed Media
- Extruder and mold forming and usage, composite pieces
- Self-directed and self-selected projects

Reference Materials
Examples of actual ware
Books:
Videos:
“Advanced Throwing Projects and Techniques” by Stephen Jepson
“Handbuilt Pottery” Crystal Productions
“Thrown and Altered Clay” with Paul Soldner
“The Art of Making Teapots” with Virginia Cartwright

Students Resources
Trade Magazines:
Art News
Ceramics Monthly
Clay Times
Pottery Making
Essential Question: How are clay bodies formulated?

Standards with Objectives for This Unit

Standard 1: Students will use media, techniques, and processes to understand and express visual elements and principles
- Select and apply ceramics media, techniques, technology and processes.
- Initiate and solve challenging problems in construction and form development.
- Select and develop an area of concentration within ceramics to be used as a means of self-expression.

Standard 2: Students will use subject matter, symbols, and ideas to make connections between art and other disciplines.
- Combine symbols and form in a conceptual piece.
- Keep a portfolio of ideas, inspirational pictures and sketches for future works.

Standard 3: Students will understand that art is the essential core which reflects, records, and shapes the history and development of culture.
- Research contemporary ceramics artists, the techniques, and the philosophy behind their work.

Standard 5: Students will continuously examine, assess, and improve their work
- Keep a journal of projects and sketches for future work, a record of glazing.
- Evaluate the growth and progress of work through self-analysis, individual and group critiques.

Performance Tasks
1. Students will mix clays and colored clays as needed to incorporate into their work.
2. Student will experiment and create works with various types of clay, i.e. cone 5 stoneware and porcelain, and record results in their journals.
3. Students will load and unload a kiln for a bisque and/or glaze fire.
Performance Standards

(See Ceramics Performance Standards Rubric on Page 49)

Professional Resources

Suggested Activities

- Decorating techniques: mishima, applique, and marbleizing on a variety of ware
- Mixing and altering colored clay bodies using stains and oxides
- Firing of altered clay bodies
- Working in porcelain and/or mid-range clay bodies on self-selected projects

Reference Materials

Examples of actual ware
Clay Times Magazine
Pottery Making Magazine

Books:

Videos:
“Inlaid Colored Clay” with Virginia Cartwright
“Beginning to Glaze and Fire “ with Graham Sheehan

Students Resources

Trade Magazines:
Art News
Ceramics Monthly
Clay Times
Pottery Making
Ceramics 3 “Self-expression and Exploration”

Unit III - Glaze Exploration

Essential Question: What makes a quality dependable glaze?

Standards with Objectives for This Unit

Standard 1: Students will use media, techniques, and processes to understand and express visual elements and principles
- Select and apply ceramics media, techniques, technology and processes.
- Initiate and solve challenging problems in construction and form development.

Standard 2: Students will use subject matter, symbols, and ideas to make connections between art and other disciplines.
- Keep a portfolio of ideas, inspirational pictures and sketches for future works.

Standard 3: Students will understand that art is the essential core which reflects, records, and shapes the history and development of culture.
- Compare a traditional ceramic work to a contemporary piece and discuss the psychological impact of each.

Standard 5: Students will continuously examine, assess, and improve work.
- Keep a journal of projects and sketches for future work, a record of glazing.
- Evaluate the growth and progress of work through self-analysis, individual and group critiques.

Performance Tasks
1. Student will mix his or her own glazes from the raw materials.
2. Student will create test tiles and record and analyze results in their journals.
3. Student will use their glazes to enhance their works.
4. Student will maintain equipment and assist in material inventories.

Performance Standards
(See Ceramics Performance Standards Rubric on Page 49)
Professional Resources

Suggested Activities
- Mixing and altering glazes with stains and raw materials
- Experimenting, Formulating and recording of new glazes
- Use mixed glazes to decorate ware
- Wax resist techniques

Reference Materials
- Examples of actual ware
- Clay Times Magazine
- Pottery Making Magazine

Books:

Students Resources
- Trade Magazines:
  - Art News
  - Ceramics Monthly
  - Clay Times
  - Pottery Making
Ceramics 3 “Self-expression and Exploration”

Essential Question: How can Ceramics stretch the limits of creativity and self-exploration?

Standards with Objectives for This Unit

Standard 1: Students will use media, techniques, and processes to understand and express visual elements and principles
- Select and apply ceramics media, techniques, technology and processes.
- Initiate and solve challenging problems in construction and form development.
- Select and develop an area of concentration within ceramics to be used as a means of self-expression.

Standard 2: Students will use subject matter, symbols, and ideas to make connections between art and other disciplines.
- Keep a portfolio of ideas, inspirational pictures and sketches for future works.

Standard 3: Students will understand that art is the essential core which reflects, records, and shapes the history and development of culture.
- Research contemporary ceramics artists, the techniques, and the philosophy behind their work.
- Compare a traditional ceramic work to a contemporary piece and discuss the psychological impact of each.

Standard 4: Students will respond to works of art through analysis and interpretation.
- Apply critical and aesthetic criteria for the purpose of improving their own works (i.e. techniques, formal and expressive qualities, and content)

Standard 5: Students will continuously examine, assess, and improve their work.
- Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
- Keep a journal of projects and sketches for future work, a record of glazing.
- Evaluate the growth and progress of work through self-analysis, individual and group critiques.
**Performance Tasks**
1. Student will create a series of self-directed pieces, which demonstrate research and growth in skills, problem solving and creativity.
2. Student will present a portfolio of their works for review.
3. Student will create a journal of contemporary or historical pottery, sculptures or techniques, which have influenced the student’s own exploration in clay.

**Performance Standards**

(See Ceramics Performance Standards Rubric on Page 49)

**Professional Resources**

**Suggested Activities**
- Self-directed projects-independent research
- Development of an area of concentration or area of interest
- Research - techniques, senior project

**Reference Materials**

Examples of actual ware
*Ceramics Monthly Magazine*

**Students Resources**

Trade Magazines:
- *Art News*
- *Ceramics Monthly*
- *Clay Times*
- *Pottery Making*
Ceramics 3 “Self-expression and Exploration”

Unit V- Career Opportunities

**Essential Question:** How can Ceramics be used to further my artistic, educational and career goals?

**Standards with Objectives for This Unit**

**Standard 2:** Students will use subject matter, symbols, and ideas to make connections between art and other disciplines.
- Discuss contemporary issues that face today’s potters and artists.

**Standard 3:** Students will understand that art is the essential core which reflects, records, and shapes the history and development of culture.
- Research contemporary ceramics artists, the techniques, and the philosophy behind their work.

**Standard 5:** Students will continuously examine, assess, and improve their work.
- Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
- Keep a journal of projects and sketches for future work, a record of glazing.

**Performance Tasks**
1. Students will research ceramics related careers.
2. Student will research post-secondary institutions which offer educational programs in ceramics and ceramics related technology.
3. Student will participate in workshops, internships or participate in volunteer or community service using their ceramics skills and abilities. i.e. Brookfield Craft Center workshops or scholarship program, studio assistant for a professional, assisting in teaching ceramics at a camp, church, after school program.

**Performance Standards**

(See Ceramics Performance Standards Rubric on Page 49)

**Professional Resources**

**Suggested Activities**
- Trips to area studios
- Internships, senior projects, community service
- Research into colleges and careers
- Attend Ceramic Workshops
Reference Materials
Career Center
College Brochures
Brookfield Craft Center Workshop Brochure
Ceramics Monthly Magazine

Students Resources
Trade Magazines:
Art News
Ceramics Monthly
Clay Times
Pottery Making
Ceramics 4
“Depth, breadth and mastery”

Unit I - Forming

Essential Question: How does a potter come to choose a “signature” forming method.

Standards with Objectives for This Unit

Standard 1: Students will use media, techniques, and processes to understand and express visual elements and principles
- Solve challenging problems in ceramics using a variety of forming methods, including large thrown forms, holloware, altered forms, composite and sculptural forms.
- Refine technical skills with an emphasis on aesthetics, quality of form and craftsmanship
- To continue to develop an area of focus, either in forming, (i.e. potter’s wheel, hand building), sculpture, and/or glazes.

Standard 2: Students will use subject matter, symbols, and make connections between art and other disciplines.
- Keep a research workbook, sketchbook or journal of ideas and inspiration for future works and reference.

Standard 3: Students will understand that art is the essential core which reflects, records, and shapes the history and development of culture.
- Analyze the work of historical and contemporary potters and discuss the purpose, philosophy or meaning behind the work.
- Discuss cultural influences on contemporary work and processes, including form, surface decoration, glazes and firing techniques.

Standard 4: Students will respond to works of art through analysis and interpretation.
- Reflect critically on ceramic ware from contemporary, historical potters and peers.
- Apply critical and aesthetic criteria for the purpose of improving own works (i.e. techniques, formal and expressive qualities, and content).

Standard 5: Students will continuously examine, assess, and improve work.
- Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
- Analyze and evaluate own work through written entries in workbook or journal.
Performance Tasks
1. Students will refine construction and forming techniques on the potter’s wheel.
2. Students will create their own tools for forming.
3. Students will focus on the mastery of a forming and/or decorating technique.
4. Students will create a variety of functional and sculptural forms using a variety of known forming methods and surface decoration/finishing techniques.
5. Students will use trade magazines and ceramics books for inspiration and springboards from which to create personalized works.
6. Students will create sketches of all proposed projects and record all work in their record book.
7. Students will keep a portfolio of ideas, and inspirational photos.
8. Students will analyze their own works and the works of others.
9. Students will use a variety of clays based on their construction needs.

Performance Standards
(See Ceramics Performance Standards Rubric on Pages 49 of Ceramics Curriculum Guide)

Professional Resources

Suggested Activities

- Potter’s Wheel-Mastery - a variety of clays-larger forms
  o Holloware and lids-measurement, seats and handles
  o Trimming and foot design
  o Altered forms and composite forms
  o Orbs and closed forms, tall bottle forms, long necked forms
  o Composite forms
  o Fluting, surface texture and slip application
  o Tea Pots, Mugs, Pitchers
  o Tool creation

- Hand building and Sculpture-variety of clays
  o Large slab, and coil
  o Composite forms
  o Mixed Media
  o Self portraits-bust and full figure
  o Repetition of form sculpture or series
  o Closed forms, lids and handles
  o Tea Pots, Mugs, Pitchers
  o Plaster cast creation

Reference Materials
Examples of actual ware
Posters, Charts, Photos

Books:
Brody, Harvey. The Book of Low Fire Ceramics
Charleston, Robert. World Ceramics an Illustrated History


Lane, Peter. *Ceramic Form, Design and Decoration*. New York, Rizzoli Pub. 1988


Lane, Peter. *Ceramic Form, Design and Decoration*. New York, Rizzoli Pub. 1988


**Videos:**

"Advanced Throwing Projects and Techniques" by Stephen Jepson,
"Ceramics Hand building Part 1 and 2" with Ro Mead", Crystal Productions
"Ceramics, Throwing on the Wheel with Henry Mead", Crystal Productions
“Pottery Decoration: Traditional Techniques" by Tom Shafer, Crystal Productions
“Beginning to Throw on the Potters Wheel” with Robin Hooper, Crystal Productions
“Handbuilt Pottery” Crystal Productions
“Inlaid Colored Clay” with Virginia Cartwright
“Making Teapots” with Virginia Cartwright
“Thrown and Altered Clay” with Paul Soldner

**Students Resources**

**Trade Magazines:**

*Art News*
*Ceramics Monthly*, [www.ceramicsmonthly.org](http://www.ceramicsmonthly.org)
*Clay Times*, [www.claytimes.org](http://www.claytimes.org)
*Pottery Making*, [www.potterymaking.org](http://www.potterymaking.org)
Essential Question: How does a potter develop their signature palette of clays, glazes and glaze applications?

Standards with Objectives for This Unit

Standard 1: Students will use media, techniques, and processes to understand and express visual elements and principles
- Research, develop and use variety of clays and stoneware glazes.
- Refine technical skills with an emphasis on aesthetics, quality of form and craftsmanship
- To continue to develop an area of focus, either in forming, (i.e. potter’s wheel, hand building), sculpture and/or glazes.

Standard 2: Students will use subject matter, symbols, and ideas to make connections between art and other disciplines.
- Keep a research workbook, sketchbook or journal of ideas and inspiration for future works and reference.
- Reinforce the connection between ceramics and geology, math and chemistry through glaze calculations and formulation.

Standard 3: Students will understand that art is the essential core which reflects, records, and shapes the history and development of culture.
- Discuss cultural influences on contemporary work and processes, including form, surface decoration, glazes and firing techniques.

Standard 4: Students will respond to works of art through analysis and interpretation.
- Reflect critically on ceramic ware from contemporary, historical potters and peers.
- Apply critical and aesthetic criteria for the purpose of improving own works (i.e. techniques, formal and expressive qualities, and content).

Standard 5: Students will continuously examine, assess, and improve their work
- Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
- Analyze and evaluate own work through written entries in workbook or journal.
Performance Tasks
1. Students will use a variety of clays to create works.
2. Students will mix colored clays and slips as needed to incorporate into their work.
3. Students will research and develop glazes by layering and mixing a variety of commercial and handmade glazes to apply to their works.
4. Students will learn how to mix basic glazes from standard lead-free, food safe formulas.
5. Students will use mathematic calculations to weigh and measure glazes.
6. Students will create test tiles of their glazes and record results.
7. Student will demonstrate a variety of glazing and finishing techniques to enhance their works.
8. Students will create a palette of glazes for their works.
9. Student will record all works, clays and glazing in their record book.
10. Students will analyze and critique all works created.

Performance Standards
(See Ceramics Performance Standards Rubric on Page 49 Ceramics Curriculum Guide)

Professional Resources
Suggested Activities
- Use a variety of clays including:
  - Low fire clay, cone 06-05 red terra cotta and white
  - Mid-Range, cone 5-6 clays, white, tan and porcelain
  - High fire clay, cone 10, white
- Explore a variety of slip application techniques:
  - Japanese techniques of Hakeme, Tobiganna, and Yubigaki
  - Colored clay slip transfer, silkscreen, stencil
  - Surface texture and color
- Research, create and apply a variety of glazes according to type of clay used.
  - Demonstrate all proper safety procedures when handling and mixing of glazes
  - Demonstrate basic glaze calculations, measuring and mixing
  - Record and create test tiles of glazes.
  - Demonstrate a variety of glazing techniques, dipping, spraying, stencil, wax resist, multi-layering

Reference Materials
Glaze Charts
Photos and examples of Ware
*Ceramics Monthly Magazine*
*Clay Times Magazine*
*Pottery Making Magazine*

Books:
Brody, Harvey. *The Book of Low Fire Ceramics*
Charleston, Robert. *World Ceramics an Illustrated History*
Lane, Peter. *Ceramic Form, Design and Decoration*. New York, Rizzoli Pub. 1988

**Videos:**
"Pottery Decoration: Traditional Techniques" by Tom Shafer,
“Beginning to Glaze and Fire with Graham Sheehan
“Inlaid Colored Clay” with Virginia Cartwright

**Students Resources**
Trade Magazines:
*Ceramics Monthly, www.ceramicsmontly.org*
*Clay Times, www.claytimes.org*
*Pottery Making, www.potterymaking.org*
Ceramics 4
“Depth, breadth and mastery”

Unit III – Portfolio Development

Essential Question: How do you create a ceramics portfolio?

Standards with Objectives for This Unit

Standard 2: Students will use subject matter, symbols, and ideas to make connections between art and other disciplines.
  • Keep a research workbook, sketchbook or journal of ideas and inspiration for future works and reference.

Standard 4: Students will respond to works of art through analysis and interpretation.
  • Apply critical and aesthetic criteria for the purpose of improving own works (i.e. techniques, formal and expressive qualities, and content).

Standard 5: Students will continuously examine, assess, and improve their work.
  • Take responsibility for maintaining ceramics materials, tools and equipment, and following correct classroom procedures.
  • Analyze and evaluate own work through written entries in workbook or journal.
  • Analyze the growth and progress of work created through digital images and portfolio creation of selected images.

Performance Tasks
1. Students will select their best ceramic pieces created from all Ceramics courses.
2. Students will set up and light 3-D objects for photographing.
3. Students will use a digital camera to photograph their ceramics and/or assorted artwork.
4. Use a computer to upload images, store images and burn CD’s.
5. Students will select images to be included in a portfolio and create a CD and/or slides.
6. Students will include their sketchbooks and/or journals in their portfolio.
7. Students will present their portfolio for review.

Performance Standards
(See Ceramics Performance Standards Rubric on Page49 of Ceramics Curriculum Guide)
Professional Resources

Suggested Activities

- Review all work selected for portfolio
  - Select pieces showing craftsmanship, breadth, versatility in form and glazing
  - Include journal and or other works created
- Demonstrate how to use a digital camera
- Demonstrate how to set up, light and photograph artwork
- Upload onto a computer and create a CD of works for portfolio
- Attend portfolio reviews offered by colleges.
- Attend art college presentations.

Reference Materials

- Examples of Art Portfolios, 2-D and 3-D
- Portfolio work from College Brochures
- Portfolio examples from Art College Representatives

Students Resources

- Art College Brochures
- Trade Magazines:
  - Ceramics Monthly, www.ceramicsmonthly.org
  - Clay Times, www.claytimes.org
  - Pottery Making, www.potterymaking.org
Suggested Resources

Magazines:
- Ceramics Monthly, [www.ceramicsmonthly.org](http://www.ceramicsmonthly.org)
- Clay Times, [www.claytimes.org](http://www.claytimes.org)
- Pottery Making, [www.potterymaking.org](http://www.potterymaking.org)
- Art News

Books:
- Brody, Harvey. *The Book of Low Fire Ceramics*
- Charleston, Robert. *World Ceramics an Illustrated History*

Videos:
- "Advanced Throwing Projects and Techniques" by Stephen Jepson,
- "Ceramics Hand building Part 1 and 2" with Ro Mead", Crystal Productions
- "Ceramics, Throwing on the Wheel with Henry Mead", Crystal Productions
- "Maria Martinez, Native American Potter"
- "Pottery Decoration: Traditional Techniques" by Tom Shafer,
“Beginning to Glaze and Fire with Graham Sheehan
“Beginning to Throw on the Potters Wheel” with Robin Hooper
“Handbuilt Pottery” Crystal Productions
“Inlaid Colored Clay” with Virginia Cartwright
“The Art of Making Teapots” with Virginia Cartwright
“Thrown and Altered Clay” with Paul Soldner

Prints:
Crystal Ceramics Posters-"Basic Ceramics"
Crystal Portfolio Prints- "Ceramics"
Crystal Portfolio Prints- "African Art Portfolio"
Crystal "Ceramics Timeline"

Slides:
Assorted Slides: Historical, Cultural, Contemporary and Student work

Museums and Galleries:
Aldrich Museum of Contemporary Art- Ridgefield, CT
Bruce Museum- Greenwich, CT
Brookfield Craft Center Gallery-Brookfield CT
Guggenheim Museum-NYC
Housatonic Art Gallery- Bridgeport, CT
Melon Center for British Art- New Haven, CT
Metropolitan Museum of Art- NYC
Museum of Modern Art- NYC
Museum of the Native American Indian-NYC
Museum of Natural History –NYC
Yale Art Gallery- New Haven, CT

COLLEGES AND UNIVERSITIES AND OTHER
Fairfield University
Housatonic Community College
Sacred Heart University
Yale University
CERAMICS VOCABULARY

ABSORBENCY - The ability of a material to soak up water.

BALL CLAY - An extremely fine-grained, plastic sedimentary clay. Although ball clay contains much organic matter, it fires white or near white.

BAT - A slab or disk of plaster of paris on which pottery is formed or dried. It is also used to remove excess moisture from clay.

BISQUE - Fired, unglazed ware.

BISQUE FIRE - Preliminary firing to harden the clay body, prior to glazing and subsequent glaze firing.

BONE CHINA - A hard, translucent chinaware produced chiefly in England.

BONE DRY - Condition of unfired ware that looks and feels completely dry and warm.

CASTING - A reproductive process of forming clay objects by pouring clay slip into a hollow plaster mold and allowing it to remain long enough for a layer of clay to thicken on the mold wall. After hardening the clay object is removed.

CHEMICAL WATER - The two water molecules of the basic clay formula. It is important to understand that this is not the, wet water. Chemical water is not wet.

CHINA - A loosely applied term referring to white-ware bodies fired at low porcelain temperatures.

CLAY - A decomposed granite-type rock. To be classed as a clay the decomposed rock must have fine particles so that it will be plastic. Clay should be free of vegetable matter but will often contain other impurities, which affect their color and firing temperatures.

CRACKLE GLAZE - A glaze containing minute creaks in the surface. The cracks are decorative and are often accentuated by coloring matter that is rubbed in.

CRAWLING - Separation of the glaze coating during firing, which exposes areas of unglazed clay caused by too heavy application.

DAMP BOX - A lined metal cabinet in which unfinished clay objects are stored to prevent them from drying.

DEHYDRATION - Burning off the chemical water from clay; this begins at 660 F and is complete by 950 F.

DIPPING - Glazing pottery by immersing it in a large vat or pan of glaze.
DRY FOOT  -To clean the bottom of a glaze piece before firing.

EARTHENWARE- Low-fire pottery (below 2000 degrees F), usually red or tan.

EGYPTIAN PASTE- A colored clay body used to make beads and other types of jewelry.

ENGOBE- A prepared slip that is halfway between a glaze and clay, applied to greenware.

FETTLING- Trimming away excess or unwanted clay. A fettling knife or tool is used by potters.

FIRING- Heating a clay object in a kiln to a specified temperature.

FIRING CYCLE- The entire process of firing ware. The steps are water smoking, dehydration, the quartz inversion, oxidation, vitrification and cooling.

FOOT- The ring like base of a ceramic piece, usually heavier than the surrounding body.

GEOLOGIC WEATHERING- The action of natural forces like wind, water, and ice that causes mountains to crumble and disintegrate into rocks, sand, dirt, and finally clay.

GLAZE- A liquid suspension of finely ground minerals that is applied by brushing, pouring, or spraying on the surface of bisque-fired ceramic ware. After drying the ware is fired to the temperature at which the glaze ingredients will melt together to form a glassy surface coating.

GLAZE FIRING- A firing cycle to the temperature at which the glaze materials will melt to form a glasslike surface coating. This is usually at the point of maximum body maturity, and it usually is higher than the bisque fire.

GREENWARE- Pottery or ware that has not been fired. Green ware may be wet, leather hard, or bone dry.

GROG- Clay that has been fired and ground to a powder. It is mixed into a clay body to increase porosity, decrease plasticity and shrinkage, or add texture.

HAKE- A brush made of goat hair for slip or glaze application.

HEAT SOAKING- Stage of firing when a relatively stable temperature is maintained and the glaze spreads over the pot and smoothes out.

HYDRATION- The natural process of chemical water molecules attaching to other mineral molecules. In the formation of clay, water molecules combine with silica and alumina molecules.

INTERFACE- The area between a glaze and the clay surface where the two melt together forming an interlocking bond.
**IRON**- The most common metallic oxide impurity in clay. Iron oxides cause the red color of most earthenware and act as a flux.

**KAOLIN**- Pure clay, also known as china clay. It is used in glaze and porcelain bodies and fifies pure white.

**KILN**- A furnace made of refractory clay materials for firing ceramic products.

**KILN FURNITURE**- Refractory shelves and posts upon which ceramic ware is placed while being fired in the kiln.

**KILN WASH**- A protective coating of refractory materials applied to the surface of the shelves and the kiln floor to prevent excess glaze from fusing the ware to the shelves.

**KNEADING**- Working the clay with the finger or heel of the hand in order to obtain uniform consistency.

**LEATHER HARD**- The condition of the raw ware when most of the moisture has left the body but when it is still soft enough to be carved or burnished.

**MAJOLICA**- Earthenware covered with a soft tin-Lead glaze, often with a luster decoration. The ware originally came from Spain, from the island Majorca.

**MATURITY**- The temperature at which clay develops the desirable characteristics of maximum non-porosity and hardness; or at the point at which the glaze ingredients enter into complete fusion, developing a strong bond with the body, a stable structure, maximum resistance to abrasion and a pleasant surface texture.

**OVERGLAZE**- Decoration applied with over glaze colors on the glaze and fired ware. The third firing of the over glaze is at a lower temperature than the glaze firing.

**PLASTICITY**- The quality of clay that allows it to be manipulated and still maintain its shape without cracking or sagging.

**PLATELETS**- The microscopic particles that make up clay. Plasticity is determined by the size and shape of particular clay's platelets.

**PORCELAIN**- A hard, nonabsorbent clay body that is white and translucent. The glaze fire is generally cone 14-16.

**POROSITY**- One of the three essential properties usable clay must have. Porosity allows clay to dry without cracking or warping.

**POTTERY**- Earthenware; a shop in which ceramic objects are made.

**PRIMARY CLAY (RESIDUAL CLAY)**- Clay that is found in the same location where the parent rock disintegrated. China clay or kaolin is an example.
PUG MILL- A machine for mixing plastic clay.

PYROMETER- An instrument for measuring heat at high temperatures.

PYROMETRIC CONES- Small triangular cones made of ceramic materials that are compounded to bend and melt at specific temperatures, thus enabling the potter to determine when the firing is complete.

QUARTZ INVERSION- Part of the firing cycle that happens about 1000 F. The Quartz (silica) crystals grow in size, and cracking can occur if the temperature increases too fast. Upon cooling, the crystals shrink back to their original size, and again cracking may if cooling is too rapid.

RAKU- A soft, lead-glazed, hand-built groggy earthenware made in Japan and is associated with the tea ceremony. Raku ware is unique in that the glazed preheated bisque is placed in the red-hot kiln with long-handled tongs. The glaze matures in 15-30 minutes and the ware is then withdrawn.

REDUCTION FIRE- A firing using insufficient oxygen; carbon monoxide thus formed unites with oxygen from the body and glaze to form carbon dioxide, producing color changes in coloring oxides.

RIB- A tool of wood, bone or metal that is held in the hand while throwing to assist in shaping the pot or to compact the clay.

SECONDARY CLAY (SEDIMENTARY CLAY) Clay that has been transported from its original rocky location by the action of wind and water.

SHARD- A broken fragment of pottery.

SILICA- Also flint and quartz. Silicon dioxide (SiO2). Sixty percent of the earth's crust is silica. When silica combines with alumina and chemical water, clay is formed. Silica is the glass forming part of the glaze. Silica sand is fluxed with lime and soda ash to make glass.

SLIP- A clay in liquid suspension.

STAIN- Sometimes a single coloring oxide, but usually a combination of oxides. while stains are employed as glaze colorants, their chief use is as an over glaze and under glaze decorations and body colorants.

STILT- A ceramic tripod upon which glazed ware is placed in the kiln.

STONEWARE- A high-fire (above cone 5) ware with slight or no absorbency it is usually gray, tan or slightly reddish in color

TERRA COTTA- An earthenware body, generally red in color and containing grog. It is commonly used in ceramic sculpture.

THROWING- Forming pottery on a potter's wheel.

TRAILING- A method of decorating, using a slip trailed out from a container.
**TRANSLUCENCY** - The ability of a thin porcelain or white ware to transmit diffused light.

**UNDERGLAZE** - Colored decoration applied on the bisque ware before the glaze is applied.

**VITRIFICATION** - The process of becoming glasslike. The ability to vitrify is one of the three important properties a usable clay must have. Vitrification is the last step in the firing cycle before cooling and is achieved at various temperatures, depending on the clay.

**VITREOUS** - Pertaining to the hard, glassy, and nonabsorbent quality of a body or glaze.

**WEDGING** - Kneading plastic clay with the finger and heel of the hand, which forces out trapped air pockets and develops a uniform texture.

**WARE** - Pottery or porcelain in the raw, bisque, or glazed state.

**WARPING** - Distortion of a pot in drying because of uneven wall thickness or in a firing when a kiln does not heat uniformly.

**WATER OF PLASTICITY** - Water is added to clay or clay body to make it plastic for throwing or modeling. Usually the weight of a plastic clay body is about 30 percent water.

**WATER SMOKING** - The beginning stage of the firing cycle. As the ware is heated, the last of the water of plasticity is driven off. At times steam can be seen coming from the kiln, which is why the process is called water smoking.
CERAMIC VOCABULARY
POTTERY – SHAPE and FORM

ADDITIONS – Pieces made and added to the body of a pot, for example, spouts, handles and knobs.

ALTERED – Pots thrown initially on a wheel and whose shape is then changed by cutting, compressing or stretching.

ALABASTRON– Elongated piriform vessel with narrow neck and usually two lug handles for holding perfumes.

AMPHORA– Jar for storage with ovoid body and 2 handles from mouth or neck to shoulder.

ARYBALLOS– Oil bottle with narrow neck, usually with a globular body, used by athletes at the bath.

ASSEMBLED– Pots made by putting together separately made components, for Example, teapots made up from body, spout, handle, lid and knob.

ATHENS & CORINTH – Dominate the history of Greek Pottery, most pottery known from these two Ancient Greek cities.

BALL– A traditional knob shape used as an alternative to the globe shape.

BARREL– A body shape with a swelling, cylindrical form.

BLACK FIGURE TECHNIQUE– Black silhouettes on a clay ground with details rendered by incised lines (sgraffito) in the black before firing, white and purple may also be added in the flesh and clothing. 700B.C.

BODY– A term used two ways; it can denote a clay, or it can refer to the main part of a vessel. Without handles or other additions.

COILED– Pots made by building up the walls from a flat base using ropes of clay.

COLLAR– The neck of a pot.

COMPONENT– Pieces of a pot, made separately and assembled later.

COMPOSITE– Describes the body shape of pots that combine two or more simple shapes.

DOUBLE-CURVE– A pot profile that is made up of both concave and convex curves.

DYE– A metal plate used to produce extruded forms. Usually used for handles and lugs.
ERGONOMIC- Shapes which take account of the forms and movements of the human body, for example, handles and knobs which have been adapted to fit hands and fingers.

EXTRUDED- Clay forms produced by forcing clay through a metal dye.

FINIAL- An alternative term for a knob.

FLANGE- A ledge of clay on pots and collar of clay on lids that are shaped to form the fitting between the cover and body of the pot.

FLATEWARE- A term that is used to refer to plates, dishes and saucers.

FOOT- The base of a pot.

HOLLOWARE- Pots that do or could hold liquids, like a covered tureen or bowl.

HUMP- A type of mold, usually of plaster, over which dishes or shallow bowls are pressed.

HYDRIA- Water jug with 2 horizontal handles for lifting when full and one vertical one for carrying when empty.

KNOB- (or finial) additions to lift lids and covers.

KRATER- Deep wide-mouth vessel for mixing wine and water with 2 handles of varying shapes.

KYLIX- Two handled drinking cup with a shallow bowl, high foot and two horizontal handles.

LIP- A modification to the shape of the rim of a pot that allows easy pouring.

LUG- Horizontal attachments to a pot that enables it to be lifted. Usually used in pairs to give a two-handed grip; they can be formed by pulling, extruding or pressing.

MODIFIED- A term used when a shape made by throwing and then intentionally deformed.

MOLD- A plaster shape into or over which clay is shaped. Can be a hollow shape into which clay is poured.

PRESSED- Pots made from pressing into or over a mold.

PULLED- Shaped made by stretching plastic clay by hand. It can refer to handles made by pulling a strap shape from a ball of clay or lips pulled from the rim of the pot.
RED FIGURE TECHNIQUE- Background is black, drawn by brush around the figures, so as to stand out; the figures are red against the black background. Details were added by painting with the black, red and white.

RIM- The top or outer edge of a pot.

ROLLED- A method to produce crude handles from rolling out clay by hand, often seen in 18th century pots.

SCYPHUS (SKYPHOS)- Deep cup usually low with low foot and two handles.

SEATING- That part of the pot to which additions are fixed.

SINGLE CURVE- A pot profile with one dominant curve.

SHOULDER- The strongest part of a pot, usually where handles are joined. The area that joins the neck to the body, generally has a rounded curve.

SLIPCAST- Pots made by pouring liquid clay or slip into molds made from plaster.

SNIP- A pouring lip made separately from the pot and applied later.

SPOUT- A pouring tube, usually tapered, that directs the flow of liquid out of a pot. Usually made separately from the body of the pot and attached later.

SWANS NECK- A graceful form of double-curved spout used on coffee pots.

TERRA-SIGILLATA- A surface treatment developed by the Greeks, that gives pottery a hard, semi-glossy surface, made by spraying on an engobe of extremely fine colloidal particles of clay.

THERMAL SHOCK- Stress that occurs in pots when they are subjected to sudden or violent changes of temperature.

TRUMPET- A shape deriving from the cone where the profile curves outward and closely resembles the mouth of a trumpet.

TURNING OR TRIMMING- Pots that are usually thrown, and replaced on the wheel when leather hard and have surplus clay removed from the base.

WALL- The vertical side of a pot.
### Decorating Techniques Vocabulary

**Appliqué**- applying a smaller piece of clay on the surface of a larger piece of clay.

**Engobe**- a decorating color that is half way between a slip and a Glaze. It is applied only to greenware.

**Glaze**- a decorating medium that is composed mainly of silica and colorants. It is applied only to bisqueware.

**Impressing**- Creating textures or designs into the clay surface by pressing in objects. Done on plastic greenware.

**Incising**- Scratching or carving into the soft plastic clay.

**Piercing**- Cutting out areas of clay to create holes or open areas. Usually done when the clay is leather hard.

**Sgraffito**- A decorating technique, where you coat the green with a slip of a contrasting color then you scratch through the leatherhard clay to expose the underlying clay color.

**Slip**- Clay in liquid suspension.

**Slip Painting**- Painting with slip using a paintbrush only on greenware.

**Slip Trailing**– Applying slip to only greenware using squeeze bottles.

**Stain**- Single oxide colorant, or chemical colorant for coloring slips, clays, and glazes.

**Staining**- the process by which you apply a liquid stain or underglaze to bisqueware, and wipe off the excess. The colorants will “stain” the low areas.

**Underglaze**- a colorant applies to either greenware or bisqueware. It must be coated with a glaze, usually, clear.

**Wax resist**- applying wax to the surface of greenware or bisqueware. The wax will resist any glaze or stain. The wax burns off during firing.
**Advanced Decorating Techniques**

- **Mishima** - A Japanese colored clay-decorating technique. Areas of clay are carved out and filled with another color of clay. The clay is scraped smooth, as to become part of the entire clay body.

- **Neriage** - A Japanese colored clay-decorating technique. Colored clay is made into precise patterned blocks. The blocks of clay are thinly sliced and rolled into a base clay. The base clay is then formed.

- **Marbelized Clay** - Layers of colored clay are formed into a block. They are slices and rolled into a slab of clay. The clay is then formed.

- **Hakame** - A Japanese decorating technique. A slip decorating technique, where rush mark are created in a contrasting colored slip over a clay body using a hake brush.

- **Tobigama** - A Japanese slip decorating technique, called “Chattering Slip” Textures are pressed into a wet clay body. A contrasting slip is applied and scraped off, only enough to stay in the impressed areas. It is an all-over textual technique.

- **Yubigaki** - A Japanese slip decorating technique using finger wipes in a contrasting slip on a wet clay body.
<table>
<thead>
<tr>
<th>Overall Appearance</th>
<th>Developing Standard</th>
<th>Near Standard</th>
<th>Meets Standard</th>
<th>Exceeds Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artwork was completed and turned in but showed poor workmanship; no evidence of planning or following of procedures. Artwork never completed.</td>
<td>Artwork adequately done yet shows lack of refinement and attention to detail. Uneven construction, parts loose.</td>
<td>Artwork shows application of design principles. Appealing, but lacking quality and refinement.</td>
<td>Artwork carefully planned and showed an awareness of the elements and principles of design. Attractive, neat and or well constructed, of excellent quality.</td>
<td></td>
</tr>
</tbody>
</table>

| Creativity and Originality | Fulfilled assignment but gave no evidence of trying anything unusual. Artwork showed no evidence of original thought. | Tried one idea and carried it out adequately but it lacked originality. | Tried a few ideas before selecting one; made decisions after referring to one source; solved the problem in a logical way; based work on someone else’s ideas. | Several choices explored before selecting one; ideas generated; unusual combinations tried; connections made to previous knowledge; outstanding problem solving skills demonstrated. |

| Effort and Perseverance | Project was completed with minimum effort. Work was not finished adequately. | Project was finished but could have been improved with more effort. | Student worked hard and completed project; with a little more effort it might have been outstanding. | Project was continued until is was as complete as student could make it; effort went far beyond what was required; student took pride in his/her work. |

| Craftsmanship Skill and Consistency | Below average craftsmanship; lack of pride in finished artwork. Poor craftsmanship; evidence of laziness or total lack of understanding. Crudely done. | Showed average craftsmanship; adequate; but not as gook as it could have been. | Student worked hard and completed the project; with a little more effort it might have been outstanding. Needs more refinement and attention to details. | Artwork was beautifully done; attention paid to the refinement of details and construction techniques. |

| Attitude | Makes some effort but lacks responsibility for equipment and/or materials. Disruptive; needs constant reminders. Has a poor attitude. | Makes a sincere effort; uses class time effectively. Inconsistent care of equipment or materials; needs constant reminders. | Has a positive attitude; good work habits; makes a sincere effort; uses class time effectively. Cares for equipment and materials. | Has a positive attitude; good work habits; makes a sincere effort; uses class time effectively; is open-minded to stylistic differences. Cares for equipment and materials. |

| Analysis | States opinion without evidence or justification. Uses little or no ceramic vocabulary and makes many spelling or grammatical errors. | Analyzes work using descriptive approach. Little or no comparisons or evidence to support statements. Uses some ceramic vocabulary and has some spelling and grammatical errors. | Analyzes work using some comparison and evidence to support statements. Uses appropriate ceramics vocabulary. Few spelling or grammatical errors. | In-depth and thoughtful analysis, using eloquent descriptions and comparative examples. Uses appropriate ceramics vocabulary. No spelling or grammatical errors. |
The following Graduation Standards are used for all students as part of the Graduation Requirements for Newtown High School. Each student must successfully meet the standards in each area. Graduation Standard Forms are to be completed for each student. Forms are available from the Administration.

Problem Solving

STANDARD 1: The student demonstrate use of the scientific method and applies procedure to solve and communicate and authentic problem or situation.

<table>
<thead>
<tr>
<th>Developing Standard 1</th>
<th>Near Standard 2</th>
<th>Meets Standard 3</th>
<th>Exceeds Standard 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attempts to identify the problem.</td>
<td>Identifies aspects of the problem.</td>
<td>Identifies the problem completely.</td>
<td>Identifies the problem and its implications completely.</td>
</tr>
<tr>
<td>Attempts to develop and action plan.</td>
<td>Develops an action plan that addresses some aspects of the problem.</td>
<td>Develops and action plan that addresses the problem.</td>
<td>Develops and action plan that addresses all aspects of the problem in detail.</td>
</tr>
<tr>
<td>Attempts to use relevant information or data to solve the problem.</td>
<td>Uses some relevant information or data to solve the problem.</td>
<td>Uses relevant information or data to solve the problem.</td>
<td>Uses a variety of sources of relevant information or data to solve the problem.</td>
</tr>
<tr>
<td>Attempts to formulate a solution or conclusion to the problem</td>
<td>Formulates a solution or conclusion to the problem with minor misconceptions.</td>
<td>Formulates a solution or conclusion that addresses the problem.</td>
<td>Formulates a solution or conclusion that addresses the problem and has other applications.</td>
</tr>
<tr>
<td>Attempts to demonstrate the solution to the problem.</td>
<td>Demonstrates the solution to problem with some areas of confusion.</td>
<td>Demonstrates the solution to problem with minor areas of confusion.</td>
<td>Demonstrates the solution to problem in an appropriate and advanced medium.</td>
</tr>
</tbody>
</table>

Rubric use for All Projects: Finding solutions for the specific criteria to the presented problem/project.
**Written Performance**

**STANDARD 1:** The student is able to take and support a position on information and ideas.

**STANDARD 2:** The student is able to convey information and ideas in a given written format.

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<tr>
<td>Position or topic is vague.</td>
<td>States a position or topic.</td>
<td>States a clear position or topic that shows awareness of audience.</td>
<td>States a clear position or topic that shows awareness of audience and engages the reader.</td>
</tr>
<tr>
<td>Uses generic language.</td>
<td>Uses language and/or terminology to express ideas.</td>
<td>Consistently uses language and/or terminology appropriate to purpose, audience, and discipline.</td>
<td>Consistently incorporates language and/or terminology appropriate to purpose, audience, and discipline</td>
</tr>
<tr>
<td>Use of transitions is not evident.</td>
<td>Use of transitions is only somewhat evident.</td>
<td>Uses transitions to move the reader along from paragraph to paragraph or within paragraphs.</td>
<td>Uses transitions effectively between and within paragraphs.</td>
</tr>
<tr>
<td>Attempts to organize ideas or information, but abrupt shifts in content interfere with meaning.</td>
<td>Organizes ideas or information within paragraph level or between paragraphs</td>
<td>Organizes ideas or information effectively within and between paragraphs.</td>
<td>Organizes ideas or information effectively within and between paragraphs, using a format appropriate to audience and purpose.</td>
</tr>
<tr>
<td>Includes ideas and information that are slightly developed, or information may be inaccurate.</td>
<td>Includes ideas and information that are developed but not thoroughly explained and/or minor inaccuracies may exist.</td>
<td>Includes ideas and information that are well developed, and accurate.</td>
<td>Includes ideas and information that are thoroughly developed; details are accurate and relevant.</td>
</tr>
<tr>
<td>Includes limited evidence.</td>
<td>Includes evidence from required source(s), prior knowledge, and/or experiences.</td>
<td>Includes evidence from required source(s), prior knowledge and/or experiences that supports the position or ideas.</td>
<td>Integrates a variety of support from the required source(s), knowledge, or experiences to enrich position or topic.</td>
</tr>
<tr>
<td>Frequent punctuation, grammar, spelling errors interfere with meaning.</td>
<td>Frequent punctuation, grammar, spelling errors exist, but do not generally interfere with meaning.</td>
<td>Few errors in punctuation, grammar and spelling and they do not interfere with meaning.</td>
<td>Punctuation, grammar, and spelling errors are rare and do not interfere with meaning</td>
</tr>
</tbody>
</table>

**Rubric use for All Projects: Contextual Rationale/Analysis, Reports and Written Assignments**
Spoken Communication

STANDARD 1: The student is able to convey information and ideas to others in a presentation using spoken language, non-verbal language and multi-media.

<table>
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<tr>
<td>Tends to emphasis information over ideas; information may be inaccurate and/or unclear.</td>
<td>Conveys information with minor inaccuracies; conveys ideas with minor areas of confusion.</td>
<td>Conveys information with accuracy and clarity.</td>
<td>Conveys information and ideas with authority and originality.</td>
</tr>
<tr>
<td>Uses graphic organizers, artwork, or other multi-media techniques; however, connection to information by not be evident.</td>
<td>Uses graphic organizers, artwork or other multi-media techniques to illustrate information or ideas.</td>
<td>Uses graphic organizers, art work, or other multi-media techniques to illustrate and interpret information and ideas.</td>
<td>Makes skillful and creative use of graphic organizers, artwork and other multi-media techniques to illustrate and interpret information and ideas.</td>
</tr>
<tr>
<td>Uses eye contact, posture or expression with prompting during presentation.</td>
<td>Uses eye contact, posture or expression to convey meaning.</td>
<td>Uses eye contact, posture, and expression to convey meaning.</td>
<td>Uses eye contact, posture, and expression to convey meaning and engage the audience.</td>
</tr>
<tr>
<td>Speaks too quickly or too softly to the setting</td>
<td>Speaks at a pace and volume that are appropriate for the setting.</td>
<td>Adjusts pace and volume to provide emphasis.</td>
<td>Makes dynamic use of pace and volume.</td>
</tr>
<tr>
<td>Tends to rely on everyday diction rather than making deliberate word choices.</td>
<td>Makes word choices appropriate to audience and uses some terminology specific to topic.</td>
<td>Makes word choices appropriate to audience and uses terminology specific to topic.</td>
<td>Makes word choices to engage audience and makes fluent use of terminology specific to topic.</td>
</tr>
<tr>
<td>Organizes spoken and visual components with support from structured directions.</td>
<td>Organizes spoken and visual components with minor areas of confusion.</td>
<td>Organizes spoken and visual components with in a logical sequence with appropriate transitions.</td>
<td>Organizes spoken and visual components in an engaging sequence with skillful transitions.</td>
</tr>
</tbody>
</table>

Rubric use for All Projects: Class Critiques